

Layton Interchange Economic Impact Study

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No Action Alternative

The economic activity under the no action alternative is assumed to stay the same as it currently exists. On the west side of the interchange along Main Street, there are two restaurants, a gymnasium employing, a scrap booking company (owned by the gymnasium owner), a moving company leasing an office, a child care/preschool center, a mobile home park, and several storage facilities. On the east side of the interchange, there are also several storage facilities, in at least one of which one or two small business lease space; and an automobile repair facility. The details of the employment can be found in the Proposed Action Alternative section below.

There is heavy congestion on Gentile Street and Main Street at the present time, as well as some indication of relatively frequent automobile accidents at 900 south Main and vicinity (13 accidents from 2004 to 2006), which may be attributed to the heavy traffic load. There is no quantitative information available relative to estimated reduced accidents or congestion.

Proposed Action Alternative

In order to assess the impacts of both the short term construction impacts and the longer term impacts on businesses in Davis County the following steps were taken:

1. An IMPLAN (input-output) model for Davis County was constructed. The model does not permit analyses at levels more detailed than County. The model uses the changes in total expenditures (Regional Gross Output or RGO) in the appropriate sector or sectors, or the changes in employment in those sectors (direct effects) to project the total changes in RGO, household income, value added and employment in the regional economy (direct plus indirect plus induced effects), using multiplier analyses.
2. The construction impact was determined using the \$64,000,000 construction cost as a basis, spread over two years. Note that the local expenditures are modified within the IMPLAN model using a "local purchase coefficient" for each sector. Thus, the direct impact on Davis County is estimated at approximately \$31,000,000 per year for two years, assuming 90% of the expenditures construction expenditures take place in Davis County. Changes in Regional Gross Output, employment, household income (employee compensation and proprietors' income), and total value added (household income plus indirect business taxes and other property income) were taken from the IMPLAN model (See Table X.Y.1).
3. Direct impacts on employment changes were estimated from the data obtained in personal interviews, as indicated below. Note that IMPLAN makes no distinction between full and part time employment (these are both classified as "jobs"). In general, full-time equivalent

employment, as reported in the employment security ES202 data, will be less than estimated by the IMPLAN model, although that relationship is not always true. The relationship between IMPLAN “jobs” and full-time equivalent employment depends on the sector. The relationship is based on the current hours worked per week per employee in the sector divided by 40 hours per work week. Some sectors are composed of mostly full time employees, while others tend to have more part time employees. Some sectors have significant overtime work. The data available from the Bureau of Labor Statistics is limited to very aggregate economic sectors. Those data suggest that there are about 1.095 full time equivalent jobs (FTEs) per IMPLAN “job” for the construction sector, about 0.6975 FTEs per job in the transportation sector, and about 0.835 FTEs per job in the retail sector. There is no estimate of average FTE per job in the entire economy, so the resulting total indirect and induced jobs from IMPLAN will be converted to FTEs using the retail sector conversion ratio.

4. The proposed action will impinge on the properties mentioned in the No Action Alternative. Personal interviews were held with most of the owners or managers of each of the establishments that will be directly affected by the construction of the interchange. Some individuals were not contacted, as indicated below.
 - a. West side of interchange:
 - i. Sill’s Café : Will definitely close. 18 full time employees
 - ii. Doug and Emmy’s Restaurant: Restaurant operator leases the building and suggests that the restaurant may close if an alternative site is not found. Out of State owner is indifferent between moving the building (at State expense) and being compensated for it. 9 full time employees, 1 part time employee.
 - iii. Two Men and a Truck Movers: Is leasing the building and would find an alternative location, probably not in Layton. 8 full time employees, 12 part time employees.
 - iv. Candy Campus: Since their clientele is local, they would attempt to find another site close by, but the availability is limited. 4 full time employees, 14 part time employees
 - v. Gymnastics: Very difficult to find a similar building and site. Would probably move out of local area. 30 full time employees, 40 part time employees.
 - vi. Scrap Booking: Probably lease or buy another office. Since is owner of gymnastics building, would probably locate in same place as new gymnastics. 10 full time employees
 - vii. Mobile home park and storage sheds: No response. Probably not change much except for reduction in number of spaces (approximately 4). Storage sheds would likely be lost. Assumed no employee loss.
 - viii. Alco Automotive: May change sites. 4 full-time employees.

- b. East side of interchange:
 - i. Storage sheds: Would probably not be replaced. Assumed no employee loss.
 - ii. Hatch Motors: Loss of back 1/3 of lot would result in having to purchase other ground nearby or moving the business. 15 full time employees.
5. A worst case scenario was developed to examine the potential negative impacts on properties that will be affected by the construction of the interchange. It was assumed that all the jobs listed above would be lost to Davis County, either because firms would close permanently or move to locations outside Davis County. Moreover, the direct impacts were measured as changes in direct employment (jobs), since specific values for total sales or income are proprietary and not easily obtained. IMPLAN converts “jobs” to RGO, income, and value added measures as a proportional change for each affected sector. The following were the assumed job losses:
- a. Restaurants (IMPLAN sector 481; NAICS¹ sector 722) : loss of 22.3 jobs (again, adjusted internally from 28 reported jobs);
 - b. Child day care services (IMPLAN sector 469; NAICS sector 6244)): loss of 17 jobs;
 - c. Automotive repair (IMPLAN sector 483; NAICS sectors 81111, 81112, 811191, 811198): loss of 16.9 jobs.
 - d. Gymnastics (IMPLAN sector 476; NAICS sector 71394): loss of 53.9 jobs
 - e. Other Federal Government enterprises (IMPLAN sector 496; no NAICS sector). This direct impact was automatically included by IMPLAN: 1.7 jobs

Construction impacts

The construction of the interchange is estimated to cost \$65,000,000, of which \$XXXX will be used to purchase private property impacted by the interchange. In order to assess the construction impacts on Davis County, an input-output model was developed for the County, using IMPLAN© software. The model generates expected direct, indirect, and induced changes in regional gross output (RGO) or total sales, county household incomes, employment, and tax revenues. It is anticipated that the construction will take two years; the impacts were divided equally between the two years. The total impacts would be the same over the life of the construction, should it differ from the projected two-year time frame.

The change in direct sales was calculated using the software’s “Regional Purchase Coefficients” (RPCs) which relate the total expenditures to local purchases of inputs (labor, materials, etc.). Two RPCs were used for the construction: 100% local purchase of inputs (the model default) and 50% local purchase of inputs (modified by the author). One could argue that the local purchase coefficients might be much lower than 50%, given that many of the inputs will likely come from other locations along the Wasatch Front. The annual estimated impacts are listed in Table X.Y.1. Note that all numbers are GAINS to the local economy.

¹ NAICS is the North American Industry Classification System used by the U.S. Department of Commerce.

Annual (Long term) impacts

The annual, or long term, impacts were estimated using the internal regional purchase coefficients available for each sector in the model. The projected annual decreases in economic variables are found in Table X.Y.2. Note that all results are LOSSES to the local economy. IMPLAN jobs are converted to FTEs using the retail conversion (note that the retail conversion rate is similar to most of the other impacted sectors).

It is likely that not all of the businesses indicated above will close or move out of the County. In fact, there has been some discussion of moving one restaurant from its current location north to the new parking area for the TRAX station. It is quite likely that at least the automotive repair business will be

Table X.Y.1. Annual Economic Impacts of Construction (each of two years)

Impact/Measure	RGO	Employment (jobs/FTEs)	Household Income	Value Added	State and Local Taxes
Direct (RPC 100%)	\$32,000,000	319.8/350.18	\$14,841,339	\$17,563,526	N/A
Total (RPC 100%)	\$48,694,328	485.488.5	\$19,366,759	\$25,803,799	\$1,769,457
Direct (RPC 50%)	\$16,000,000	159.9/175.1	\$ 7,420,670	\$ 8,781,763	N/A
Total (RPC 50%)	\$40,347,164	242.7/244.2	\$ 9,683,380	\$12,901,900	\$ 884,729

able to purchase adjacent land to move its storage area. Thus, the impacts reported in Table X.Y.2 are likely an overestimate of economic impacts to local businesses.

At present, It is anticipated that the interchange and its planning, in particular the locations with historic buildings, will permit the Hatch Motors and Two Men and a Truck to continue to operate in Davis County. Table X.Y.3 indicates the impacts under the revised scenario.

Table X.Y.2. Annual Economic Impacts of Interchange on Local Businesses

Impact/Measure	RGO	Employment Jobs/FTEs	Household Income	Value Added	State and Local Taxes
Direct	\$6,310,580	126.7/105.8	\$2,054,495	\$2,563,023	N/A
Total	\$9,723,443	163.3/136.4	\$3,061,798	\$4,394,421	\$ 514,476

Table X.Y.3. Revised Annual Economic Impacts of Interchange on Local Businesses

Impact/Measure	RGO	Employment Jobs/FTEs	Household Income	Value Added	State and Local Taxes
Direct	\$3,745,012	98.7/82.4	\$1,192,957	\$1,372,418	N/A
Total	\$5,594,098	119.7/99.9	\$1,732,040	\$2,413.421	\$ 286,588

The IMPLAN model indicates that, in 2004, that Davis County had approximately \$12.9 billion in total sales, 126,280 jobs (approximately 105,500 FTEs), \$4.86 billion in Household Income, and \$6.7 billion in Value Added. Thus, the estimated construction impact will be less than 0.5% of current levels of the economic indicators, and the long term annual losses due to the interchange are less than 0.1% of current levels of all of the economic indicators. That being said, these impacts would be clearly personally significant to those individuals or businesses affected.

Resident' Expectations

In addition to the impacts related to businesses, the general population survey included two questions relative to economic impacts. The first asked whether or not the homeowner expected the value of his or her property to increase or decrease as a result of the construction of the interchange. The answer format was an eight response scale, ranging from 1 to 8, including "increase greater than 50%, increase 10 to 49%, increase less than 10%, not change, decrease less than 10%, decrease 10 to 49%, decrease more than 50%, and don't know," respectively. The second question asked whether or not the homeowner would move in the next 2 years if construction occurs, and its responses, ranging from 1 to 6, included "yes almost certainly, yes probably, uncertain, no probably not, no almost certainly, and don't know," respectively.

Results from these questions are found in Table X.Y.4. It appears that more people thought that housing values would fall (41%) than rise (25%), but that more would likely stay in their home (38%) than move (22%). A further statistical analysis was accomplished to determine if there were differences among the responses based on proximity to the interchange, length of time in the home, renting or owning the home, and expected change in property value. These results can be found in Tables X.Y.5 and X.Y.6.

Table X.Y.4. Value Change and Move Responses

Response to value change	Number of responses	% Value Change	Response to move	Number of responses	% move
increase >50%	8	0.039216	Yes certain	30	0.147059
increase 10-49%	24	0.117647	Yes Probably	15	0.073529
increase <10%	21	0.102941	Uncertain	79	0.387255
no change	56	0.27451	No probably	49	0.240196
decrease <10%	16	0.078431	No certain	28	0.137255
decrease 10-49%	46	0.22549	Don't Know	1	0.004902
decrease >50%	23	0.112745	No Response	2	0.009804
Don't Know	4	0.019608			
No Response	6	0.029412			

The first statistical analysis included the responses for expected change in property value relative to proximity (1 for in the interchange area, 2 for somewhat distant from the interchange area, and 3 for

distant from the interchange area). The results suggest that the mean response was a less than 10% reduction in property value, and that that response decreased in response value (moved from decrease toward increase) by about 0.30 units per unit of proximity. Thus the move from close proximity to distant proximity would result in a move of the mean from 5.07 (decrease < 10%) to 4.4 (no change). Of course, these results treat the responses as continuous rather than discrete, so caution must be used in their interpretation. Nevertheless, it appears that the further removed from the interchange the respondent, the more likely he or she is to expect a positive or neutral impact on property values.

Table X.Y.4. Relations between Proximity and Expected Value Change

Change in value (Intercept)	Proximity effect
5.07	-0.30
(t=14) ²	(t=-2.0)

The second statistical analysis examined the likelihood of a move based on several variables: proximity, expected change in value, length of time in the home, and whether the respondent owned, or rented (leased) the property. Results suggest that the mean likelihood of a move is 3 (uncertain), and that increase in the expectation of a property value reduction increases that likelihood, while time in the home decreases it. Note that there is a high correlation between proximity and expected change in property values, which likely explains the insignificance of the proximity variable.

Table X.Y.5. Likelihood of moving

Mean Likelihood Of Move	Proximity to Interchange	Expected Change in Prop Value	Time in Home	Own or Rent
3.49	-0.07	0.21	-0.17	-0.05
(t=9.1)	(t= -0.9)	(t=4.3)	(t= -3.4)	(t= -0.4)

Conclusions

The IMPLAN analyses indicate that there will be little significant direct and indirect economic impact in Davis County of either the construction activity or the annual displacement of businesses. Of course, specific individuals may suffer economic dislocations.

Residents of the area appear to expect that their property values will fall as a result of the interchange, with proximity to the interchange resulting in larger losses. However, it appears that, on average, residents are uncertain about moving as a result of the interchange depending on their proximity to the interchange and the time that they have resided in their current home.

² “t” values in excess of 2.0 reflect highly statistically significant results (0.01 level). “t” values less than 1.6 are statistically insignificant.